



KNOWLEDGE ORGANISER

SCIENCE: CIRCLE OF LIFE

YEAR FIVE

KEY KNOWLEDGE:

QUESTION 1: What is a lifecycle?

ANSWER

Life cycle means the stages a living thing goes through during its life. In some cases the process is slow, and the changes are gradual. Humans have various steps during their lives, such as zygote, embryo, child and adult.

QUESTION 2: What is a Mammal?

ANSWER

Mammals are a particular class of animal. They must have glands that give milk. This is to feed their babies. Second, they are warm-blooded. Third, all mammals have fur or hair. Humans are mammals and so are dogs, whales, elephants, and horses. Most mammals have teeth with the exception of the ant eater which doesn't have any teeth.

Mammals live in all sorts of environments including the ocean, underground, and on land. Some mammals, bats for example, can even fly.

Mammals are sometimes divided into three types based on how they give birth and take care of their young.

- Live young - Most mammals give birth to live young (instead of laying eggs like birds or reptiles). These mammals are called placental mammals.
- Marsupials - Marsupials are special types of mammals that carry their young in a pouch. Some marsupials include the kangaroo, the koala, and the opossum.
- Egg laying - A few mammals lay eggs, they are called monotremes. Monotremes include the platypus and the long-nosed spiny anteater.

QUESTION 3: What is an amphibian?

ANSWER

Amphibians are a class of animals like reptiles, mammals, and birds. They live the first part of their lives in the water and the last part on the land. When they hatch from their eggs, amphibians have gills so they can breathe in the water. They also have fins to help them swim, just like fish. Later, their bodies change, growing legs and lungs enabling them to live on the land. The word "amphibian" means two-lives, one in the water and one on land.

Like fish and reptiles, amphibians are cold-blooded. This means their bodies don't automatically regulate their temperature. They must cool off and warm up by using their surroundings.

Most amphibians hatch from eggs. After they hatch, their bodies are still in the larvae stage. In this stage they are very fish like. They have gills to breathe under water and fins to swim with. As they grow older, their bodies undergo changes called metamorphosis. They can grow lungs to breathe air and limbs for walking on the ground. The transformation isn't the same in all amphibians, but they all go through some sort of metamorphosis.

Amphibians have adapted to live in a number of different habitats including streams, forests, meadows, bogs, swamps, ponds, rainforests, and lakes. Most of them like to live in or near water and in damp areas.



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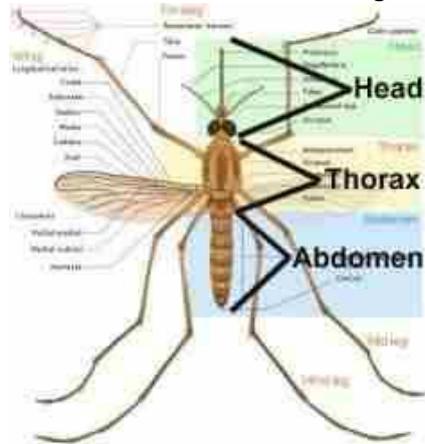
YEAR FIVE

QUESTION 4: What is an insect?

ANSWER

There are more types of insects than any other type of animal on the planet. The main categories of insects are butterflies, moths, beetles, centipedes, flies, grasshoppers, and social insects. Insects tend to be small, but can vary in size from nearly invisible to over 7 inches long.

- Insects all have a hard external covering made of something called chitin.
- Their bodies are made up of three sections called the head, the thorax, and abdomen.
- All insects will have a pair of antennae on their head.
- They all have six legs connected to the thorax (arachnids will have eight legs).
- Some insects have wings connected to the thorax and can fly.



Insect body sections

Insects are born from eggs. Young insects are called nymphs. As insects grow, they get a new hard outer covering by getting rid of the old covering and growing a new one. This process is called molting. Social insects live in large groups and work together to survive and build their homes. Some examples are bees, ants, wasps, and termites. The study of insects is called entomology.